Innovations in delivering mental healthcare: *STRONGEST FAMILIES*

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CONFLICT OF INTERESTS

I am the founder and volunteer Chair of the Board of Strongest Families Institute
I receive no financial compensation or consideration from the Institute

WHAT I WILL DISCUSS

- What is e-health?
- Where are the strengths and weaknesses
- Lean healthcare and e-health solutions
- One example, Strongest Families

WHAT IS E-HEALTH?

- Using information and communication technology to deliver health care
  - Calling a patient on the telephone
  - Prescribing apps for use of patients
  - E-consults with other clinicians
  - Patients accessing their health records electronically
  - Remote monitoring

PURPOSE OF E-HEALTHCARE; THE SAME AS FACE TO FACE

- ❖Deliver the best care to patients/families
- ❖Be patient/family centred
- ❖Effective
- ❖Safe
- ❖Privacy ensured
- ❖Be efficient so that more care can be delivered

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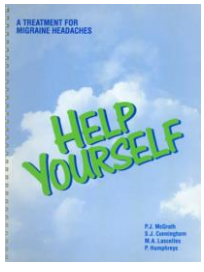
	Characteristics	Scientific evidence	Status at IWK	Comment
Basic e-healthcare	Health care provider and patient communicate electronically in same way as face to face	Excellent evidence that basic e-health works well.	Telehealth (secure video). Some use of telephone and perhaps email.	Could be implemented without additional research.
Level 2 e-healthcare	Change in health care provider, using protocols; support of face to face interventions	Many specific examples of good evidence	Electronic calendars and diaries	Needs appropriate protocols
Level 3 e-healthcare	Changes in who communicates, what is communicated. Including use of programs on internet, smartphone or monitoring.	Many specific examples of good evidence but not in usual care. Most apps not validated.	Contracting of Strongest Families; some use of apps	Needs appropriate research, esp. on implementation. Could include public health interventions by identifying patients in need and offering e-services e.g. smoking cessation, parenting, sleep problems in babies, increasing activity etc.

MY EARLY EFFORTS AT E-HEALTHCARE

- ❖1986 published 1st of 4 RCTs on migraine
- ❖Published Help Yourself for patients and professionals
- ❖Amazon Bestsellers Rank: #4,066,124
- ❖Talks around the world: Papers cited ~500
- ❖No uptake at home or anywhere else
- ❖A Total Failure



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WHAT IS LEAN HEALTHCARE

- ❖ Management strategy to improve processes
- ❖Put patient/family at the centre
- ❖Culture change to eliminate waste in all processe
  - ❖Waiting is waste
  - ❖Low value activities are waste
  - ❖Prioritize high value work
  - ❖Establish standard work
  - ❖Eliminate silos

Bercaw, R.G. Lean leadership for healthcare. Approaches to lean transformation. CRC Press. Boca Raton, FL. 2013, 235pp.

Going Lean in Health Care. IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement; 2005.

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WHY LEAN AND E-HEALTHCARE COMPLEMENT EACH OTHER

- ❖E-Healthcare can be very patient/family focused
- ❖Standardization easier with e-healthcare
- ❖Collection of outcomes easier with e-healthcare
- ❖Simple analytics can identify low value work
- ❖Tracking of processes can be done

E-HEALTHCARE WITHOUT LEAN

- ❖ Replicate many of the wasteful practices
  - ❖ Fail to focus on:
    - ❖eliminating waste
    - ❖eliminating low value work
    - ❖eliminating waiting
    - ❖increasing standard work

Current child mental health

- ❖13-20% have a diagnosable disorder may be increasing rate of disorder
- ❖75% of children with disorders do not obtain mental health care; No recent Canadian data.
- ❖25-78% drop out of treatment
- ❖Mental health is highest cost child health problem
- ❖Lifetime cost: $1.5 million/conduct disorder
- ❖Poverty doubles risk of child mental health problems

Perou R, CDC. Mental health surveillance among children-US, 2005-2011. MMWR Surveill Summ. 2013 May 17;62 Suppl 2:1-35.
Cohen, MA. 1998) The monetary value of saving a high risk youth. Journal of Quantitqtive Criminology, 14, 5-33.
Soni A. (2014) The five most costly children's conditions, 2011. Medical Expenses Panel, Agency for Health Care Quality
NIMH Blueprint for change: Research on child and adolescent mental health. Rockville, MD: U.S. Department of Health and Human Services, Administration, Center for Mental Health Services, 2001.
de Haan et al. A meta-analytic review on treatment dropout in child and adolescent outpatient mental health care. Clin Psychol Rev. 2013 Jul;33(5):698-711.

IDEAL CHILD/YOUTH MENTAL HEALTH SYSTEM 1:

Effective in reducing mental health problems
- ❖Scientific evidence used in planning
- ❖Outcomes: Symptoms and satisfaction monitored all the time
- ❖Long term follow up
- ❖Analytics used to improve care
- ❖Research integrated into care

"If you don't know where you are going, you might end up someplace else." Yogi Bear

Efficient: uses resources wisely
- ❖Least $$ spent for maximum impact
- ❖Right personnel for the right job
- ❖Stepped care: least invasive, least costly used first
- ❖Efforts to increase efficiency always

IDEAL CHILD/YOUTH MENTAL HEALTH SYSTEM 2:

Family/child/youth oriented

- ❖No waiting
- ❖Convenient times and locations
- ❖Respectful of child/youth/families: a partnership
- ❖No incidental costs for families
- ❖Respectful of client preferences e.g. individual-group; face to face-distance
- ❖Few drop outs

Standardized and personalized

- ❖Same best treatment for same problem given in Vancouver as in Halifax
- ❖Treatment determined by needs of child/youth/family NOT preference of professional via systematic reviews, evidence based care plan.

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IDEAL CHILD/YOUTH MENTAL HEALTH SYSTEM 3:

Excellent communication

- ❖With referring agents, families, primary care
- ❖Safe and secure
- ❖Adverse events monitored
- ❖Privacy of personal health information assured

Available to all

- ❖Rural, remote and urban
- ❖Poor and well off
- ❖All languages and cultural groups
- ❖All levels of severity from pre-clinical to severe major mental illness

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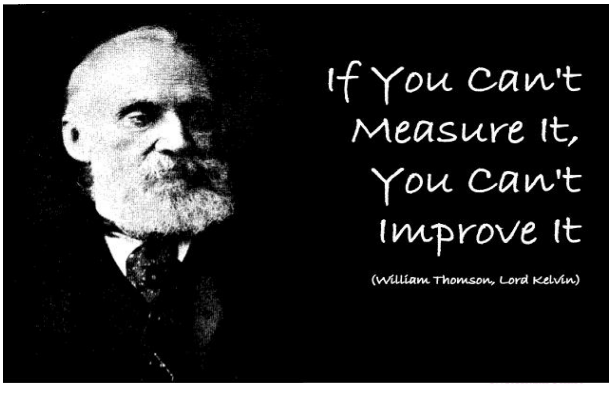

MODELS OF CARE DELIVERY

Model	Characteristics
Autonomy model	Each clinician determines care; clinician characteristics predict care, clinical judgement not scientific evidence, no monitoring of clinician behavior and usually not of patient outcomes. A Craft Model, **Anecdote Rules**
Evidence based care	Based on scientific data, especially systematic reviews translated into clinical guidelines. Based on RCT data which looks at group results. An Industrial model **Group data rules**
Analytic approach ★	Based on scientific data and analytics of each patient. A Learning Healthcare system. Data collected on every patient to improve care. A Post Industrial model. **Individual data rules**

STRONGEST FAMILIES

- Institute Federally incorporated, not for profit
  - Volunteer Board of Directors - business and health professionals
  - Dr. Patricia Lingley-Pottie, President and CEO
  - 50 employees, mostly in Halifax
- Delivers care, participates in research
  - Services sold to government and other agencies
  - Nova Scotia, Newfoundland, Alberta, PEI, Ontario, NB
    - Bell Let's Talk funding
  - Services in English and French
  - ~4000 families served/year
- Centre for Research on Family Health
  - Research group at the IWK Health Centre
  - Funded by grants
  - Does research, transfers IP to Institute
  - Patrick McGrath, Lead

Strongest Families Institute

- Home delivery of care: electronically, no incidental costs
- Appointment times convenient for families
- Families viewed as partners, expert on their family
  - Build on strengths
  - Staff trained in customer relations
- No wait list policy
- Protocol driven-Evidence based; analytics on outcomes
- Outcomes and satisfaction measures on every family
- Intervention as education, not therapy
  - Coaches not therapists: no stigma to learning skills from a golf pro, personal trainer or swim coach
  - Scalable to the health system from the beginning

Dr. Patricia Lingley-Pottie
President and CEO
Strongest Families Institute

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COACHES

Ongoing training

- Background reading
- Learn scripts and parent handbook
- All calls recorded
- Dense monitoring fading to episodic quality assessment (2-5%)
- Biweekly Coaches Corner
- Certification

Highly productive and efficient

- 35 cases (1:1); 90-100 per annum
- 200+/year with group-based coaching

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CURRICULUM

Disruptive Behavior Parents

1. Notice the good
2. Spreading attention
3. Ignoring whining
4. Transitional Warnings
5. Planning ahead at home
6. Behavior chart
7. Planning ahead outside
8. Working with Daycare/school
9. Time out
10. Problem solving
11. Putting it all together

Facing anxiety →

Booster

Anxiety Parents & child

1. Belly Breathing
2. Understanding Anxiety
3. Thinking and Being positive
4. Special place
5. Muscle relaxation
6. Mini relaxation
7. Worry List
8. Role play
9. Taking control of your anxiety
10. Making a plan to defeat your anxiety

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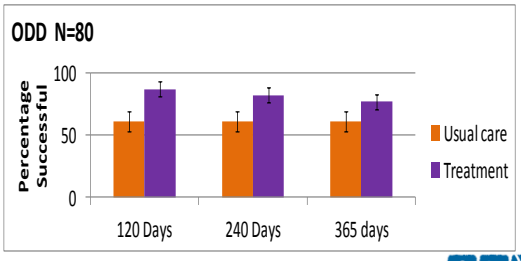
RCT: PERCENTAGE SUCCSESSFUL TREATMENT VS. CONTROL ODD TRIAL: 3-7 YEARS (n=80)



McGrath PJ,et al. Telephone-based mental health interventions for child disruptive behavior or anxiety disorders: randomized trials and overall analysis. J Am Acad Child Adolesc Psychiatry. 2011 Nov;50(11):1162-72.

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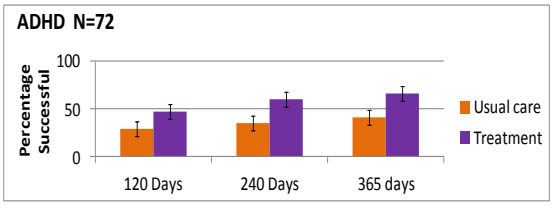
RCT: PERCENTAGE SUCCESSFUL TREATMENT VS. CONTROL ADHD TRIAL: 8-12 YEARS (n=80))



Success = children not meeting criteria for disorder

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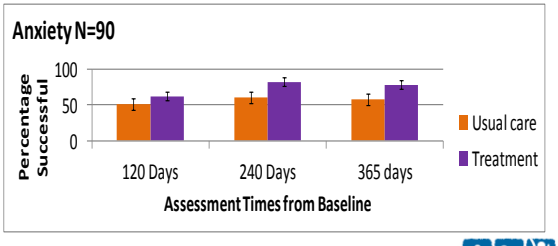
PERCENTAGE SUCCESSFUL TREATEMENT VS. CONTROL ANXIETY TRIAL: 6-12 YEARS (n=80)



Success = children not meeting criteria for disorder

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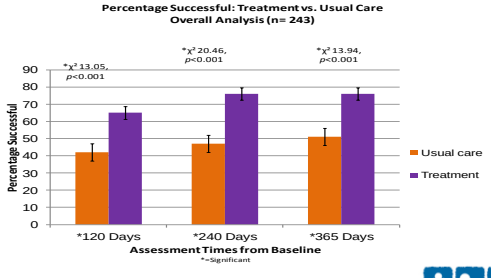
RCT: OVERALL ANALYSIS



Success = children not meeting criteria for disorder

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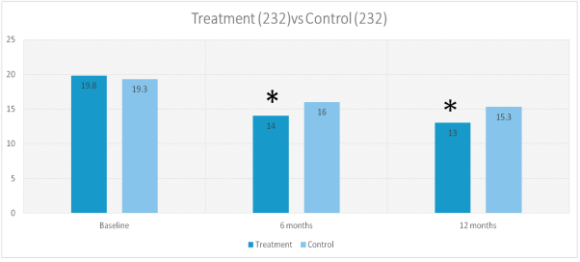
PREVENTION TRIAL FINLAND

- ❖4 year old population sample from well child clinics
- ❖Elevated Strengths and Difficulties Behavior Scale
- ❖Randomized to treatment or control
- ❖Now developing national approach

Sourander A, McGrath PJ, Ristkari T, et al. Internet-Assisted Parent Training Intervention for Disruptive Behavior in 4-Year-Old Children: A Randomized Clinical Trial. JAMA Psychiatry. 2016 Apr;73(4):378-87.

RCT, PREVENTION 4 YEAR OLDS CBCL EXTERNALIZING SCALE



Sourander A, McGrath PJ, Ristkari T, et al. Internet-Assisted Parent Training Intervention for Disruptive Behavior in 4-Year-Old Children: A Randomized Clinical Trial. *JAMA Psychiatry*. 2016;73(4):378-387.

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CLINICAL SERIES

- ❖Using consecutive participants who were referred to Strongest Families for treatment
- ❖Intervention was conducted by regular staff, supervised by regular supervisors. Both have a Training and Certification program.
- ❖Coaches have 35 families at one time (100 per year) if doing individual interventions
- ❖Group treatment has up to 12 families participating in weekly sessions
- ❖Coaches located in call centre

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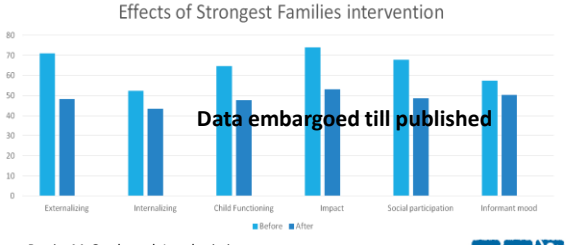
BEHAVIOUR PROBLEM PARTICIPANTS N= 1062 (705 BOYS, 66%)



Data embargoed till published

Pottie, McGrath et al. In submission

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PARENT SATISFACTION: INDIVIDUAL VERSUS GROUP, EXCELLENT + VERY GOOD

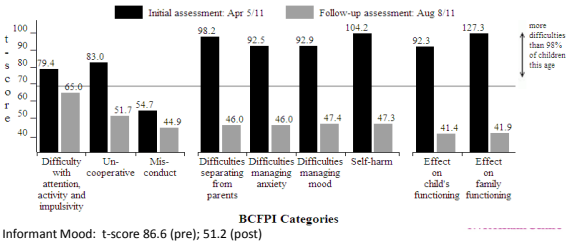
Data embargoed till published

All weak ratings followed up

Ratings collected independently

10-YEAR-OLD MALE BEHAVIOUR

Attentive - able to focus & complete tasks, especially homework
Compliant - less argumentative, improved listening, blames less
Conduct - less aggressive; less destructive
Positive effect on internalizing issues, functioning & Informant mood scores



Informant Mood: t-score 86.6 (pre); 51.2 (post)

IN DEVELOPMENT

- ❖Headache apps: 2 different approaches, problem solving or stress management. Trial beginning
- ❖Depression app: Behavioral activation, trial about to begin
- ❖Replication with economic analysis: paper drafted
- ❖Fetal Alcohol Spectrum Disorder: trial in analysis
- ❖Mental health, Aboriginal: trial about to begin
- ❖Post partum depression: in submission
- ❖Back pain: in preparation
- ❖PTSD: in preparation
- ❖Suite of apps for patients of Family Physicians

CONCLUSIONS

- ❖E-Health can significantly transform health care
- ❖ Lean processes are important
- ❖Savings for patients can be significant
- ❖Savings for the Health system can be significant
- ❖It is 2017, Just do it.

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Research

CIHR IRSC
Canadian Institutes of Health Research / Instituts de recherche en santé du Canada

DALHOUSIE UNIVERSITY
Inspiring Minds

Thank you!

Innovacorp
Nova Scotia Health Research Fund
Hospital for Sick Kids

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Questions?

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